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High-Commitment Work Systems and Employee Voice: A Multi-Level and Serial Mediation Approach inside the Black Box

Abstract

Purpose— Although scholars have suggested that employees often carefully consider social contexts before enacting voice, few studies have explored whether firms foster employee voice behavior by adopting a set of systematic HR practices termed as high-commitment work systems (HCWS). Integrating the literature on HCWS and voice, we explore mechanisms of how HCWS utilization impact on employee voice.

Design/ methodology/ approach— We adopted multilevel analyses with HLM software to examine our research hypotheses. We collected data from a sample of 290 employees and 58 line managers from 11 software design and development firms in China.

Findings— Results demonstrated that HCWS utilization positively affected employee experienced HCWS which enhanced psychological safety and perceived organizational support, and in turn employee voice behavior. In addition, HCWS utilization positively influenced employee experienced HCWS, and subsequently increased voice efficacy. However, contrary to our expectations, voice efficacy was not related to employee voice.

Originality/ value— The study is the first to integrate research on HCWS and voice. By building on the theory of planned behavior, we provide new insights into the relationship between the adoption of HCWS and employee voice but also inspire researchers to elucidate other explanatory mechanisms in this link.

Keywords: high-commitment work systems; voice; psychological safety; perceived organizational support; voice efficacy

Introduction

Due to the complexity of the external organizations, it is becoming increasingly

challenging to achieve organizational success only through the wisdom of top managers since those at the top-level are probably not likely to possess all the data they need for work-related issues (Qin et al., 2014; Tangirala and Ramanujam, 2008). The suggestions from lower-level employees in the organization can promote decision-making quality, help correct errors, and improve managerial effectiveness (Burris, 2012; Wei et al., 2015). Yet, employees are often reluctant to express opinions and concerns about potentially serious problems in the organization as this involves a degree of personal risk (Liang et al., 2012; Liu et al., 2010), such as criticizing the status quo, challenging the authority of leaders, and undermining organizational harmony. A recent study has reported that over 85% of employees choose to keep silence towards issues and problems at work (Milliken et al., 2003). Therefore, it has become critical, both theoretically and practically, to explore and understand the factors that facilitate employee voice.

According to Tangirala et al. (2013: p 1040), voice is defined as “the expression of challenging but constructive opinions, concerns, or ideas by employees on work-related issues.” Several studies have shown that voice is influenced by some individual facilitators, e.g. core self-evaluations, proactive personality, extraversion, assertiveness, conscientiousness, as well as duty orientation (Aryee et al., 2017; Morrison, 2014; Tangirala et al., 2013; Crant et al., 2011; Harlos, 2010; Kish-Gephart et al., 2009; LePine and Van Dyne, 2001). However, these individual factors are difficult rather stable. Thus, there has been an increasing interest among researchers in understanding how contextual conditions drive employee voice. Existing work has identified that voice is a result of some contextual triggers, for instance transformational leadership (Duan et al., 2017; Liu et al., 2010), ethical leadership (Chen and Hou., 2016; Walumbwa and Schaubroeck, 2009), paternalistic leadership

(Chan, 2014), leader-member exchange (Kong et al., 2017), perceived organizational support (Tucker et al., 2008), psychological safety (Walumbwa and Schaubroeck, 2009; Detert and Burris, 2007), group voice climate (Morrison et al., 2011), organizational identification (Qi and Ming-Xia, 2014) and felt obligation for change (Liang et al., 2012).

Even though scholars have emphasized the importance that voice can be promoted via contextual enablers, less research has explored whether and how high-commitment work systems (HCWS) organizations utilize foster employee voice. HCWS refer to a system of HR practices aimed to elicit employee commitment to the organization (Xiao and Björkman, 2006). HCWS, one of the most systematic contextual factors, are intended to help the organization to realize its goals by emphasizing employees' benefits and long-term development and strengthening employees' emotional attachment and trust toward the organization (Whitener, 2001). We argue that HCWS may contribute to employee voice because they create a condition in which employees have the desires, abilities, and perceived safety to generate constructive changes in the organization. Hence, our first objective is to examine the impact of HCWS utilization on employee voice.

Moreover, drawing upon the theory of planned behavior (Ajzen, 1991), we aim to explicate the processes through which HCWS utilization contributes to employee voice. Voice can be considered a planned behavior that enables individual to cognitively ponder whether to engage in voice behavior e.g. by looking at the potential benefits and costs associated with voice (Liang et al., 2012) Voice is referred to as "taking reasonable initiative in a belief that conditions can be improved by offering open discussions and providing solutions" (Akhtar et al., 2016: pp 539). Expressing constructive suggestions may have beneficial consequences for

employees, such as enhanced perceived control, favorable promotion opportunities, and decreased stress (Dutton and Ashford, 1993; Greenberger and Strasser, 1986; Parker, 1993). On the other hand, voice may have potential personal risks, including increased interpersonal conflicts and being ostracized, bad job assignment, and negative performance review (Morrison, 2011; Milliken et al., 2003; Morrison and Milliken, 2000). Hence, employees can carefully evaluate and explore the potential pros and cons associated with voice before speaking up i.e. voice behavior may be considered as a deliberate planned behavior (Liang et al., 2012). The theory of planned behavior offers insights into explaining the enactment of planned behavior. This theory posits that there are three factors playing a critical role in influencing individual behavior (Ajzen, 1991). First, individuals must have a positive attitude toward the behavior (attitude toward the behavior). Second, perceived social pressures of performing the behavior from the influential individuals and groups (subjective norms). Third, individuals must feel that they have enough control over the behavior (perceived behavioral control). Guided by the theory of planned behavior, we focus on psychological safety, perceived organizational support, as well as voice efficacy, and theorize and test how HCWS utilization affects employee voice through these three mechanisms.

Finally, employees' responses to HR practices are potentially important for firm performance (Kehoe and Wright, 2013; Messersmith et al., 2011). Thus, it is imperative to explore individual-level HCWS. In addition, some scholars called for more researches investigating HR practices at different levels simultaneously (Den Hartog et al., 2013; Jiang et al., 2013), as HCWS implemented by organizations may have desirable consequences on employees' attitudes and behaviors only when they are perceived and experienced by employees in intended ways (Kehoe and Wright,

2013). In other words, employee-level HCWS may follow from HCWS utilization, and relate to employees' attitudes and behaviors. Hence, in our study, we introduce a multilevel approach to test the relationship between HCWS at the department and employee level. Overall, our study introduces a sequential mediation whereby HCWS utilization affects employee experienced HCWS that facilitate psychological safety, perceived organizational support, and voice efficacy which have downstream consequences for employee voice behavior. Figure 1 presents our theoretical model.

 FIGURE 1 ABOUT HERE

Theoretical Overview and Hypotheses Development

HCWS Utilization and Employee Experienced HCWS

We focus on HCWS that include “a bundle of internally consistent HR practices, such as extensive training, ownership of stock options and profit-sharing plans, developmental performance appraisal, group-based performance appraisal, job rotation, participative management, team-based work, information-sharing programs, socialization, and promotion of egalitarianism.” (Xiao and Tsui, 2007). Research has demonstrated that HCWS affect employees' attitudinal and behavioral outcomes, for instance elevated employee in-role behavior, organizational citizenship behavior, as well as creativity (Chang et al., 2014; Uen et al., 2009), enhanced employee perceived organizational support and organizational commitment (Whitener, 2001), and increased knowledge exchange, and combination among employees (Collins and Smith, 2006).

The present study examines the use of HCWS at the department level and employee-level HCWS simultaneously. Nowadays, line managers take on more responsibilities related to human resources (e.g., recruitment & selection, training & development, performance appraisals, and promotion) than previously (Kuvaas et al., 2014; Jiang,

2013). Line managers communicate and implement HR practices to individuals. Hence, line managers play a vital role in the implementation of HCWS (Bos-Nehles et al., 2013). Accordingly, multiple studies have used line managers to report the utilization of HCWS at the department level as well (Sikora et al., 2015; Jensen et al., 2013). The differences in implementation frequently exist at the department level as line managers may vary in willingness and competence to deal with HR affairs, workload, and HR responsibility (Kuvaas et al., 2014). Recently, researchers have started paying attention to how employees perceive HCWS because HR practices that organizations design are likely to have favorable effects on employees' attitudes and behaviors only if they are perceived, understood, and accepted by employees (Boon and Kalshoven, 2014; Piening et al., 2013; Kehoe and Wright, 2013). Thus, it is imperative to examine whether the use of HCWS at the department level is in line with employee experienced HCWS, as the department is the crucial level in between organizational policies and employee experiences of available policies and practices. Social information processing theory offers a theoretical rationale to explore the effect of HCWS utilization on employee experienced HCWS. The key tenet of the theory is that employees incline to utilize information obtained from social setting to guide their attitudes, behaviors, and perceptions (Salancik and Pfeffer, 1978). HCWS utilization refers to HR practices that are implemented for a group of employees, which offers a contextual cue for individuals to shape their perceptions of HR practices. Consequently, we posit that HCWS utilization positively predicts employee experienced HCWS. Hence, we postulate:

Hypothesis 1: HCWS utilization is positively related to employee experienced HCWS.

Influence of Employee Experienced HCWS on Voice

In the context of the theory of planned behavior (Ajzen, 1991), we explore the influence processes of employee experienced HCWS on employee voice. We posit that employee experienced HCWS are positively associated with voice by contributing to employees' perceptions of psychological safety, organizational support, as well as voice efficacy because these mediating factors respectively affect employees' positive attitudes toward voice, perceived normative pressures for voice and perceived ease of engaging in voice.

Psychological safety fostering employees' positive attitude toward voice. Employees' attitudes toward the behavior are largely determined by whether the consequences of the behavior are positive or negative (Liang et al., 2012). As mentioned above, voice may have the potential benefits and risks for employees displaying this behavior. Hence, whether employees feel safe to speak up plays a central role in changing their attitudes toward voice. Psychological safety refers to the extent to which employees consider that their risky behaviors e.g. voice are not disciplined and rejected in the organization (Edmondson, 1999). Voice carries some degree of personal risk and may result in some negative repercussions, such as challenging the authority of leaders, being misunderstood by their colleagues, and jeopardizing interpersonal relationships in the workplace (Liang et al., 2012; Liu et al., 2010). Employees with a high level of psychological safety can freely express their suggestions and concerns without the fear of negative ramifications (Walumbwa and Schaubroeck, 2009). Consequently, the risks of voice that these employees perceive are likely to decrease. The benefits associated with voice outweigh the risks, which leads to employees have positive attitudes toward voice. On the contrary, when psychological safety is lacking, employees cannot truly express themselves due to potential negative outcomes. Research has also indicated that psychological safety is linked to enhanced voice

(Walumbwa and Schaubroeck, 2009; Detert and Burris, 2007).

HR practices encompassed in HCWS may motivate employees to speak up through strengthening employees' perceptions of psychological safety. Companies advocating egalitarianism help employees to perceive that they are safe to voice their opinions and ideas by reducing status distinctions between them and their leaders (Chang et al., 2014). In contrast, firms that are dominated by the minority of members enable the powerless members to feel that their suggestions are likely to be rejected and that they may be punished. Furthermore, organizations adopting stock options and profit-sharing plans intend to develop long-term exchange relationships with their employees based on mutual trust (Rousseau and Wade-Benzoni, 1994). Participative management reflects organizations' trust and recognition for employees (Liao et al., 2009). Empirical work has shown that a trusting work environment in which employees feel greater psychological safety in expressing their concerns and opinions about work (Edmondson and Lei, 2014). Taken together, we state that employees' psychological safety, induced through HCWS, motivates employees to speak up. Combined with Hypothesis 1 assuming that HCWS utilization is positively related to the employee experienced HCWS, we argue that compared with HCWS utilization, the employee experienced HCWS may have more proximal relationships with employee outcomes. Hence, we propose the following hypotheses:

Hypothesis 2a: Employee experienced HCWS mediate the positive relationship between HCWS utilization and psychological safety.

Hypothesis 2b: HCWS utilization indirectly affects voice sequentially through employee experienced HCWS and psychological safety.

Perceived organizational support facilitating employees' perceptions of normative pressures for voice. Norms guide how individuals think, feel, and behave in the

interpersonal context. Personal moral norms, a type of norms, are most closely related to planned behavior intended to benefit others (Conner and McMillan, 1999). Personal moral norms refer to the personal feeling of moral obligation to engage in the behavior (Ajzen, 1991). As a personal moral norm, the norm of reciprocity suggests that when individuals receive favors from the other party, they are likely to create felt obligation for giver to reciprocate in positive, beneficial ways (Blau, 1964; Liang et al., 2012). Perceived organizational support refers to employees' beliefs concerning whether organizations value their contributions and care about their well-being (Shanock and Eisenberger, 2006). Research has suggested that employees enjoying a high level of organizational support are likely to reciprocate the beneficial treatment from the organization by performing behaviors intended to help the organization (e.g., voice) (Kurtessis et al., 2017; Rhoades and Eisenberger, 2002). Some scholars have also presented that perceived organizational support is positively associated with voice (Loi *et al.*, 2014; Tucker *et al.*, 2008).

Moreover, we argue that employee experienced HCWS positively predict perceived organizational support. HR practices included in HCWS such as extensive training, socialization activities, and job rotation imply employers' commitment and investment in employees (Liao et al., 2009; Takeuchi et al., 2007); HR practices such as developmental performance appraisal, group-based performance appraisal, ownership of stock options as well as profit-sharing plans show organizations' recognition and consideration for employee contributions; and practices such as participative management show organizations' respect for employees' suggestions. Research has suggested that perceived organizational support can be influenced by organizations' investment, recognition, and respect (Liao et al., 2009; Allen et al., 2003; Wayne et al., 2002). Based on the above arguments, we suggest that employee

experienced HCWS will drive voice behavior through employees' perceived organizational support. Combined with Hypothesis 1, we propose the following hypotheses:

Hypothesis 3a: Employee experienced HCWS mediate the positive relationship between HCWS utilization and perceived organizational support.

Hypothesis 3b: Employee experienced HCWS and perceived organizational support sequentially mediate the positive relationship between HCWS utilization and voice.

Voice efficacy enhancing employees' perceptions of behavioral control over voice.

The theory of planned behavior proposes that the resources (e.g., information, skills, and abilities) that individuals have access to play a crucial role in affecting their perceptions of control over the behavior (Ajzen, 1991). Voice efficacy captures employees' "can do" beliefs to engage in voice and refers to employees' confidence about their capabilities to speak up (Tangirala et al., 2013), which contributes to employees' feelings of control over voice behavior. Voice efficacy stems from self-efficacy proposed by Bandura (1986). Self-efficacy is not only a cognitive variable closely related to individuals' behaviors but also a key mediating mechanism explaining how contextual factors affect individuals' behaviors. Self-efficacy is not restricted to a specific realm. Our study focuses on voice efficacy rather than self-efficacy as compared with self-efficacy, voice efficacy has a stronger predictive power for voice (Duan et al., 2014; Kish-Gephart et al., 2009). Employees having a higher level of voice efficacy believe that they have the abilities and knowledge to raise productive submissions at work and that their opinions will be taken seriously (Tangirala et al., 2013). In addition, these employees consider that the social context of their work is controllable (Duan et al., 2014). Research has revealed that personal control is a crucial factor in driving employee voice (Tangirala and Ramanujam,

2008). Thus, we argue that voice efficacy is positively related to employee voice. Furthermore, employee experienced HCWS are expected to facilitate voice efficacy. Among the HR practices, extensive training increases employees' knowledge and skills that are necessary for voice (Wei and Lau, 2010; Liao et al., 2009; McAllister et al., 2007). Job rotation helps employees to improve knowledge and skills by assigning them to multiple positions (Chang et al., 2014). Developmental performance appraisal informs employees about improvements in their knowledge, skills, and performance. Information-sharing programs encourage employees to disseminate their knowledge and information with their coworkers. Socialization activities companies design contribute to knowledge sharing among employees. Moreover, employee participation in decision-making reflects organizations' respect for their submissions and conveys the signals that organizations consider them to be valued and competent, which results in increased voice efficacy (Aryee et al., 2012). HR practices such as group-based performance appraisal and team-based work that spark intra-team cooperation and prompt knowledge sharing among team members (Chang et al., 2014). Therefore, HCWS are assumed to foster voice efficacy due to enhanced employees' knowledge, skills, and perceived competence resulting from these HR practices included in HCWS. To sum up, we postulate that employee experienced HCWS will foster voice via voice efficacy. Based on the discussions above about Hypothesis 1, we posit:

Hypothesis 4a: Employee experienced HCWS mediate the positive relationship between HCWS utilization and voice efficacy.

Hypothesis 4b: HCWS utilization indirectly affects voice sequentially through employee experienced HCWS and voice efficacy.

Methods

Sample and Procedure

We collected data from 11 software design and development companies located in China. To reduce common method bias, we developed and distributed survey questionnaires to employees and their line managers, along with the attached cover letter explaining and ensuring each participant that i) the participation in this survey was voluntary, ii) their responses would be kept anonymous and confidential, and iii) the sole purpose of this survey was academic research. Employees were asked to complete a survey including employee experienced HCWS, perceived organizational support, voice efficacy, and psychological safety. Line managers rated HCWS that the firms implemented for their department employees and provided the assessment of voice for their participating subordinates. Before data collection, we contacted HR executives in each firm and requested them to randomly select the departments in their respective firms and 3 to 7 employees in each selected department to complete the distributed questionnaires.

A total of 332 employees and 62 line managers were invited to partake in the survey. We utilized a matched code technique to classify each employee's and their corresponding line manager's response. We obtained responses from 308 employees and 60 line managers, with a response rate of 92.77% for employees and 96.77% for line managers. The response rate was relatively high because we conducted an on-site survey. After screening their responses, we received a final sample of 290 employees and 58 line managers. Among 290 employees, the average age was 28.09 years old ($SD = 7.12$) and 44.50% were male; their average tenure in the organization was 5.64 years ($SD = 5.79$).

Measures

We used all the scale items originally developed in English and then translated into Chinese for participants by utilizing back-translation procedure to ensure the

reliability and validity of these scales. HCWS utilization, the employee experienced HCWS, perceived organizational support, voice efficacy, and psychological safety were measured on a 5-point Likert-type scale ranging from 1= strongly disagree to 5= strongly agree. Employee voice behavior was evaluated using a 7-point response scale ranging from 1= strongly disagree to 7= strongly agree.

HCWS. We adopted a ten-item HCWS scale that Xiao and Tsui (2007) developed in the Chinese context. Line managers and employees reported HCWS utilization and employee experienced HCWS, respectively. Following previous studies (Den Hartog et al., 2013; Jiang, 2013), HCWS utilization was conceptualized at the department-level, and it was targeted to measure HCWS that the firms offered to department employees. A sample item is “The firm provides extensive training and socialization for department employees” ($\alpha = 0.92$). The referent focus of employee experienced HCWS was individual, and it was targeted to measure employees’ personal experiences and understanding of related HR practices. A sample item is “The firm provides extensive training and socialization for me” ($\alpha = 0.90$).

Psychological safety. Employees rated their own psychological safety perceptions using a five-item measure from Liang, Farh, and Farh (2012). A sample item is “In my organization, I can freely express my thoughts” ($\alpha = 0.88$).

Perceived organizational support. Employees rated their own perceived organizational support which was based on six items from Shanock and Eisenberger (2006). A sample item is “My organization values my contribution to its well-being” ($\alpha = 0.93$).

Voice efficacy. Employees rated their own voice efficacy with three items from Tangirala et al. (2013). A sample item is “I am self-assured about my capabilities to speak up on work-related issues in my organization” ($\alpha = 0.85$).

Voice. Employee voice was assessed by line managers using six items developed by Van Dyne and LePine (1998). A sample item is “This employee speaks up in my organization with ideas for new projects or changes in procedures” ($\alpha = 0.95$).

Control variables. In addition to employee demographic variables such as gender, age, education level, and organizational tenure, department size was also included as a control variable because larger department may be more likely to use better-developed HR practices and may contribute to employee voice (Sun et al., 2007). Moreover, we collected data from 11 organizations. To rule out the potential influences of organizational differences on employee outcomes, we controlled for organizations using ten dummy variables.

Analytical Approach

The collected data have a nested structure as employees are nested in departments. Hence, we adopted multilevel analyses with HLM software to examine our hypotheses. In order to justify that HLM is the appropriate method for analyzing two-level data, we ran null models with employee experienced HCWS, perceived organizational support, voice efficacy, psychological safety, and voice as the outcome variables, respectively. Results indicated that within-group and between-group variance of employee experienced HCWS were 0.30, and 0.29, respectively. ICC(1) was 0.492, suggesting that between-group variance explained 49.2% of total variance in employee experienced HCWS. As such, ICC(1) associated with perceived organizational support, voice efficacy, psychological safety, as well as voice were 0.634, 0.460, 0.558, and 0.652, respectively. Therefore, we should use HLM to test the multilevel hypotheses.

In our study, HCWS utilization was operationalized at the department-level. To check whether such approach adequately captured the concept, we developed a null model to

estimate the variance of HCWS utilization. Results have demonstrated that the within-firm and between-firm variance of HCWS utilization were 0.79, and 0.18, respectively. The ratio of within-firm to total variance was 0.814, indicating that 81.4% of total variance in HCWS utilization resided in within-firm. That is, there is a considerable amount of variance in the use of HCWS among different departments in the same organization. Hence, conceptualizing HCWS utilization at the department-level was appropriate.

Our study involves examining the significance of multilevel indirect effects. Following Preacher and Selig (2012), we used R software for a parametric bootstrap procedure with 20,000 Monte Carlo re-samples to construct bias-corrected confidence intervals (CIs) for these indirect effects.

Results

Confirmatory Factor Analyses

We performed confirmatory factor analyses (CFAs) to test the discriminant validity of individual-level measures included in the theoretical framework: employee experienced HCWS, perceived organizational support, voice efficacy, psychological safety, and voice. The results of CFAs in Table 1 showed that the five-factor model achieved best model fitness among all models we examined, $\chi^2_{(395)} = 784.18$, RMSEA= 0.058, TLI= 0.93, CFI = 0.94, IFI=0.94. In addition, the results of Chi-square difference tests in Table 1 indicated that the five-factor model was more superior to the four alternative-models. These results demonstrated the distinctiveness of these five factors.

TABLE 1 ABOUT HERE

Hypotheses Testing

Table 2 shows the means, standard deviations, reliabilities, and correlation

coefficients among study variables.

TABLE 2 ABOUT HERE

The results of HLM analyses are presented in Table 3. Hypothesis 1 predicted the positive effect of HCWS utilization on employee experienced HCWS. The results of Model 1 in Table 3 reported that HCWS utilization was positively related to employee experienced HCWS (Model 1, $\gamma = 0.25$, $p < 0.001$). So, Hypothesis 1 was supported.

TABLE 3 ABOUT HERE

Hypothesis 2a suggested that employee experienced HCWS would mediate the positive relationship between HCWS utilization and psychological safety. As shown by the results of Model 2 in Table 3, HCWS utilization was positively related to psychological safety (Model 2, $\gamma = 0.29$, $p < 0.001$). Furthermore, the results of Model 3 revealed a significant relationship between employee experienced HCWS and psychological safety, controlling for HCWS utilization (Model 3, $\gamma = 0.29$, $p < 0.001$). In order to examine the significance of this indirect effect, we utilized the parametric bootstrap procedure suggested by Preacher and Selig (2012). The results demonstrated that the indirect effect of HCWS utilization on psychological safety through employee experienced HCWS was significant (indirect effect = 0.073, 95% CI= [0.027, 0.132]). As a consequence, Hypothesis 2a received further support.

Hypothesis 2b argued that HCWS utilization indirectly affects voice sequentially through employee experienced HCWS and psychological safety. The results of Model 8 showed that psychological safety was positively related to voice (Model 8, $\gamma = 0.12$, $p < 0.05$). Based on this coefficient and the results in examining Hypothesis 2a, we utilized the parametric bootstrap procedure and found that the indirect effect of HCWS utilization on voice sequentially through employee experienced HCWS and

psychological safety was significant and positive (indirect effect = 0.009, 95% CI= [0.001, 0.021]), lending support to Hypothesis 2b.

Hypothesis 3a stated that employee experienced HCWS would mediate the positive relationship between HCWS utilization and perceived organizational support. The results of Model 4 in Table 3 indicated that HCWS utilization positively predicted perceived organizational support (Model 4, $\gamma = 0.29$, $p < 0.01$). In addition, employee experienced HCWS were positively linked with perceived organizational support (Model 5, $\gamma = 0.52$, $p < 0.001$), controlling for HCWS utilization. We examined this indirect pathway adopting the parametric bootstrap method and found that the indirect effect of HCWS utilization on perceived organizational support via employee experienced HCWS was significant (indirect effect = 0.13, 95% CI= [0.059, 0.217]). Thus, Hypothesis 3a was supported.

Hypothesis 3b argued a serial indirect effect in which employee experienced HCWS and perceived organizational support sequentially mediate the positive relationship between HCWS utilization and voice. The results of Model 8 in Table 3 showed that perceived organizational support was associated with enhanced voice behavior (Model 8, $\gamma = 0.21$, $p < 0.01$). According to this coefficient and the results in testing Hypothesis 3a, we employed the same parametric bootstrap method and indicated that the indirect effect of HCWS utilization on voice sequentially through employee experienced HCWS and perceived organizational support was significant and positive (indirect effect = 0.027, 95% CI= [0.007, 0.057]), lending support to Hypothesis 3b.

Hypothesis 4a proposed that employee experienced HCWS would mediate the positive relationship between HCWS utilization and voice efficacy. As shown by the results of Model 6 in Table 3, HCWS utilization was significantly related to voice efficacy (Model 6, $\gamma = 0.26$, $p < 0.01$). Moreover, the results of Model 7 showed that

employee experienced HCWS were associated with higher voice efficacy, controlling for HCWS utilization (Model 7, $\gamma = 0.39$, $p < 0.001$). We also tested this indirect effect using the parametric bootstrap procedure and found that indirect pathway from HCWS utilization to voice efficacy via employee experienced HCWS was significant and positive (indirect effect = 0.098, 95% CI= [0.038, 0.173]). Thus, Hypothesis 4a was supported.

Hypothesis 4b predicted that HCWS utilization indirectly affects voice sequentially through employee experienced HCWS and voice efficacy. The results of Model 8 in Table 3 indicated that voice efficacy was not significantly related to voice (Model 8, $\gamma = 0.03$, *ns*). Hence, Hypothesis 4b was not supported.

Discussion

Integrating research on HCWS and voice, we developed and examined a model elaborating the underlying mechanisms through which the use of HCWS promotes employee voice behavior. Our findings revealed that the utilization of HCWS positively affected employee experienced HCWS, and in turn facilitated psychological safety and perceived organizational support, and consequently employee voice behavior. Additionally, HCWS utilization enhanced voice efficacy via employee experienced HCWS. However, we did not find support for the effect of voice efficacy on employee voice.

Theoretical and Practical Implications

The main contribution of this study lies in its focus and the finding of the positive association between HCWS at the department and individual levels. This contributes to debates on the misalignment of various HR practices as perceived by line managers and their subordinates. In a recent study, Den Hartog et al. (2013) demonstrated a weak correlation between manager and employee rated HRM practices. Similarly,

Nishii and Wright (2008) suggested that what is intended at the management level does not overlap with what is perceived by employees. In departing from these findings, our results speak to the positive association between department level and employee perceived HR practices.

In relation to above, a related contribution of our paper lies in its examination of a trickle-down model of HCWS from department level to the employee level, with downstream consequences for voice behavior. Recent studies on trickle-down models have revealed how certain HR practices rated by line managers trickle down to subordinates and impact on their work outcomes positively. For example, according to Bal et al. (2015), when there is higher support for career customization by managers, results in more commitment for employees benefiting from career customization and get better career success with respect to bonuses and career advancement. From a trickle-down perspective, this is the first study to explore the consequences of department level HCWS from an individual employee perspective.

Our findings also respond to and expand research to unpack and delineate the mechanisms of how the combination of HR practices impact on employees' work outcomes (Boon and Kalshoven, 2014; Mostafa, 2016, 2017). Prior research has revealed and relied on social exchange, AOM framework and affects in explaining how HRM practices impact on employees' attitudes and behaviors (Mostafa, 2017; Messersmith et al., 2011). We expand this line of research by introducing a sequential mediation and by underscoring the role of three mechanisms, i.e., psychological safety, perceived organizational support and voice efficacy, which are individual and perception driven mechanisms overlooked in strategic HRM research to date (Purcell and Hutchinson, 2007).

Our results demonstrated that perceived organizational support and psychological

safety are the two key mechanisms, however, contrary to our expectation, voice efficacy was not found to be a mediator. The context of our study could be one reason to account for this lack of significant relationship. China, as a collectivistic society, highlights interpersonal harmony and reciprocation (Liang et al., 2012). Therefore, psychological safety and perceived organizational support may have relatively stronger predictive power in the Chinese context. The issue pertaining to whether voice efficacy may have a stronger effect in explaining voice in Western contexts advocating individualism and self-presentation needs to be explored in future studies. Another plausible explanation is that there may be factors that moderate the association between voice efficacy, and employee voice behavior, such as the futility of voice. Employees who perceive that their proposed suggestions may be futile are not likely to speak up (Fast et al., 2014), irrespective of the level of voice efficacy they feel.

Our study also adds to the research on voice. Prior research demonstrated that voice can be influenced by contextual conditions (Morrison, 2011). However, as revealed in a recent meta-analysis, the antecedents to voice behavior have been predominantly individual-level variables (Ng and Feldman, 2012). Yet, whether firms can employ HCWS to boost employee voice behavior has remained unexplored. Hence, we have addressed this research question by linking HCWS utilization to employee voice. Moreover, this study also extends the HCWS research because the existing literature has focused predominantly on in-role performance, organizational citizenship behavior, as well as creativity in terms of employees' behaviors as the consequences of HCWS (Chang et al., 2014; Uen et al., 2009). Hence, our research adds to the literature on the outcomes of HCWS by accounting for how the adoption of HCWS impacts employee voice behavior.

Aside from its theoretical contributions, important managerial implications result from our study. We find that the utilization of HCWS leads employees to involve in voice behavior. In other words, the investment in HCWS may pay off. Furthermore, our study suggests a pivotal role of employee experienced HCWS. Previous work has suggested that employees can perceive HR practices organizations design by promoting the communication strategies and the implementation of HR practices from supervisors (Sikora et al., 2015; Den Hartog et al., 2013). As a consequence, it is imperative for companies to develop supervisors' communication skills and to effectively implement HCWS toward employees. Moreover, equal attention should be focused on perceived organizational support and psychological safety that contribute to employee voice behavior. Managers should create an inclusive climate where individuals can freely express their recommendations and issues without the fear of detrimental consequences through formal and informal employee voice mechanisms. In addition, organizations may foster employees' perceptions of organizational support by offering fair rewards, favorable job conditions, and positive performance feedback for them.

Limitations and Recommendations for Future Research

Firstly, the present study has some limitations that need further attention in future studies. We obtained data from two sources i) employees and ii) line managers, which reduced the possible effects of common method bias on our findings. Furthermore, the collected data were cross-sectional that limited our ability to deduce causal inferences. Therefore, future research needs to follow longitudinal research designs to thoroughly examine the causal relationships.

Secondly, since the present study is based on the Chinese context, the findings may not be generalized to other contexts. Consequently, future research may replicate or

test in other contexts such as the West or should identify how the Chinese context may impact our study conclusions.

Thirdly, drawing upon the theory of planned behavior, we tested the mediating mechanisms through which employee experienced HCWS affect voice behavior, there may be additional approaches that need further attention e.g. fundamental psychological needs. The theory of self-determination states that individuals possess three fundamental psychological needs i.e. competence, relatedness, and autonomy (Ryan and Deci, 2000). Prior research has demonstrated that the satisfaction of these needs can drive employees' positive behavior, such as voice behavior, job performance, as well as OCB (Van den Broeck et al., 2016). HCWS may contribute to employees' basic psychological needs as employees can acquire extensive knowledge and skills, and sufficient autonomy through HCWS. Hence, future study should investigate how basic psychological needs mediate the link between employee experienced HCWS and voice behavior.

Finally, the results of Model 3 and Model 5 reported in Table 3 showed the positive effects of HCWS utilization on employee psychological safety and perceived organizational support when simultaneously adding HCWS utilization and employee experienced HCWS as the predictors, which indicate that there may be other explanatory mechanisms within such relationships, such as caring climate and empowerment climate. Consequently, we encourage scholars to conduct additional researches examining how caring climate and empowerment climate mediate the influences of HCWS adoption on employee psychological safety and perceived organizational support.

Conclusion

In summary, this study used a multilevel multisource data to theorize and test whether

and how firms can employ HCWS to stimulate employee voice behavior. The model examined in the present study elaborated the underlying mechanisms through which the use of HCWS promotes voice behavior and also revealed that by utilizing positively affected employee experienced HCWS facilitates psychological safety, perceived organizational support, and enhanced voice efficacy. Our study not only provided new insights into the relationship between the adoption of HCWS and employee voice but also inspired researchers to elucidate other explanatory mechanisms in this association.

References

- Ajzen, I. (1991), "The theory of planned behavior", *Organizational Behavior and Human Decision Processes*, Vol. 50 No. 2, pp. 179-211.
- Akhtar, M. N., Bal, M. and Long, L. (2016) "Exit, voice, loyalty, and neglect reactions to frequency of change, and impact of change: A sensemaking perspective through the lens of psychological contract", *Employee Relations*, Vol. 38 Issue: 4, pp.536-562, <https://doi.org/10.1108/ER-03-2015-0048>
- Allen, D. G., Shore, L. M. and Griffeth, R. W. (2003), "The role of perceived organizational support and supportive human resource practices in the turnover process", *Journal of Management*, Vol. 29 No. 1, pp. 99-118.
- Aryee, S., Walumbwa, F. O., Mondejar, R. and Chu, C. W. (2017), "Core self-evaluations and employee voice behavior: Test of a dual-motivational pathway", *Journal of Management*, Vol. 43 No. 3, pp. 946-966.
- Aryee, S., Walumbwa, F. O., Seidu, E. Y. and Otaye, L. E. (2012), "Impact of high-performance work systems on individual-and branch-level performance: test of a multilevel model of intermediate linkages", *Journal of Applied Psychology*, Vol. 97 No. 2, pp. 287-300.
- Bal, P. M., Van Kleef, M. V. and Jansen, P. G. W. (2015), "The impact of career customization on work outcomes: Boundary conditions of manager support and employee age", *Journal of Organizational Behavior*, Vol. 36 No. 3, pp. 421-440.
- Bandura, A. (1986), "*Social foundations of thought and action: A social cognitive theory*", Englewood Cliffs, NJ, US: Prentice-Hall, Inc.
- Blau, P. M. (1964), "*Exchange and power in social life*", New York: Wiley.
- Boon, C. and Kalshoven, K. (2014), "How high-commitment HRM relates to engagement and commitment: The moderating role of task proficiency", *Human*

Resource Management, Vol. 53 No. 3, pp. 403-420.

Bos-Nehles, A. C., Van Riemsdijk, M. J. and Looise, J. K. (2013), "Employee perceptions of line management performance: Applying the AMO theory to explain the effectiveness of line managers' HRM implementation", *Human Resource Management*, Vol. 52 No. 6, pp. 861-877.

Burris, E. R. (2012), "The risks and rewards of speaking up: Managerial responses to employee voice", *Academy of Management Journal*, Vol. 55 No. 4, pp. 851-875.

Chan, S. C. (2014), "Paternalistic leadership and employee voice: Does information sharing matter?", *Human Relations*, Vol. 67 No. 6, pp. 667-693.

Chang, S., Jia, L., Takeuchi, R. and Cai, Y. (2014), "Do high-commitment work systems affect creativity? A multilevel combinational approach to employee creativity", *Journal of Applied Psychology*, Vol. 99 No. 4, pp. 665-680.

Chen, A. S. Y. and Hou, Y. H. (2016), "The effects of ethical leadership, voice behavior and climates for innovation on creativity: A moderated mediation examination", *Leadership Quarterly*, Vol. 27 No. 1, pp. 1-13.

Collins, C. J. and Smith, K. G. (2006), "Knowledge exchange and combination: The role of human resource practices in the performance of high-technology firms", *Academy of Management Journal*, Vol. 49 No. 3, pp. 544-560.

Conner, M. and McMillan, B. (1999), "Interaction effects in the theory of planned behaviour: Studying cannabis use", *British Journal of Social Psychology*, Vol. 38 No. 2, pp. 195-222.

Crant, J. M., Kim, T. Y. and Wang, J. (2011), "Dispositional antecedents of demonstration and usefulness of voice behavior", *Journal of Business and Psychology*, Vol. 26 No. 3, pp. 285-297.

Den Hartog, D. N., Boon, C., Verburg, R. M. and Croon, M. A. (2013), "HRM,

communication, satisfaction, and perceived performance: A cross-level test”, *Journal of Management*, Vol. 39 No. 6, pp. 1637-1665.

Detert, J. R. and Burris, E. R. (2007), “Leadership behavior and employee voice: Is the door really open?”, *Academy of Management Journal*, Vol. 50 No. 4, pp. 869-884.

Duan, J., Kwan, H. K. and Ling, B. (2014), “The role of voice efficacy in the formation of voice behaviour: A cross-level examination”, *Journal of Management & Organization*, Vol. 20 No. 4, pp. 526-543.

Duan, J., Li, C., Xu, Y. and Wu, C. H. (2017), “Transformational leadership and employee voice behavior: A Pygmalion mechanism”, *Journal of Organizational Behavior*, Vol. 38 No. 5, pp. 650-670.

Dutton, J. E. and Ashford, S. J. (1993), “Selling issues to top management”, *Academy of Management Review*, Vol. 18 No. 3, pp. 397-428.

Edmondson, A. (1999), “Psychological safety and learning behavior in work teams”, *Administrative Science Quarterly*, Vol. 44 No. 2, pp. 350-383.

Edmondson, A. C. and Lei, Z. (2014), “Psychological safety: The history, renaissance, and future of an interpersonal construct”, *Annual Review of Organizational Psychology and Organizational Behavior*, Vol. 1 No. 1, pp. 23-43.

Eisenberger, R., Armeli, S., Rexwinkel, B., Lynch, P. D. and Rhoades, L. (2001), “Reciprocation of perceived organizational support”, *Journal of Applied Psychology*, Vol. 86 No. 1, pp. 42-51.

Fast, N. J., Burris, E. R. and Bartel, C. A. (2014), “Managing to stay in the dark: Managerial self-efficacy, ego defensiveness, and the aversion to employee voice”, *Academy of Management Journal*, Vol. 57 No. 4, pp. 1013-1034.

Greenberger, D. B. and Strasser, S. (1986), “Development and application of a model of personal control in organizations”, *Academy of Management Review*, Vol. 11 No. 1,

pp. 164-177.

Jiang, K. (2013), “*Bridging the gap between reality and perception: Managers’ role in shaping employee perceptions of high performance work systems*”, Dissertations & Theses-Gradworks.

Jiang, K., Takeuchi, R. and Lepak, D. P. (2013), “Where do we go from here? New perspectives on the black box in strategic human resource management research”, *Journal of Management Studies*, Vol. 50 No. 8, pp. 1448-1480.

Harlos, K. (2010), “If you build a remedial voice mechanism, will they come? determinants of voicing interpersonal mistreatment at work”, *Human Relations*, Vol. 63 No. 3, pp. 311-329.

Kehoe, R. R. and Wright, P. M. (2013), “The impact of high-performance human resource practices on employees’ attitudes and behaviors”, *Journal of Management*, Vol. 39 No. 2, pp. 366-391.

Kish-Gephart, J. J., Detert, J. R., Treviño, L. K. and Edmondson, A. C. (2009), “Silenced by fear: The nature, sources, and consequences of fear at work”, *Research in Organizational Behavior*, Vol. 29, pp. 163-193.

Kong, F., Huang, Y., Liu, P. and Zhao, X. (2017), “Why voice behavior? An integrative model of the need for affiliation, the quality of leader-member exchange, and group cohesion in predicting voice behavior”, *Group & Organization Management*, Vol. 42 No. 6, pp. 792-818.

Kurtessis, J. N., Eisenberger, R., Ford, M. T., Buffardi, L. C., Stewart, K. A. and Adis, C. S. (2017), “Perceived organizational support: A meta-analytic evaluation of organizational support theory”, *Journal of Management*, Vol. 43 No. 6, pp. 1854-1884.

Kuvaas, B., Dysvik, A. and Buch, R. (2014), “Antecedents and employee outcomes of

line managers' perceptions of enabling HR practices", *Journal of Management Studies*, Vol. 51 No. 6, pp. 845-868.

LePine, J. A. and Van Dyne, L. (2001), "Voice and cooperative behavior as contrasting forms of contextual performance: evidence of differential relationships with big five personality characteristics and cognitive ability", *Journal of Applied Psychology*, Vol. 86 No. 2, pp. 326-336.

Liang, J., Farh, C. I. and Farh, J. L. (2012), "Psychological antecedents of promotive and prohibitive voice: A two-wave examination", *Academy of Management Journal*, Vol. 55 No. 1, pp. 71-92.

Liao, H., Toya, K., Lepak, D. P. and Hong, Y. (2009), "Do they see eye to eye? management and employee perspectives of high-performance work systems and influence processes on service quality", *Journal of Applied Psychology*, Vol. 94 No. 2, pp. 371-391.

Liu, W., Zhu, R. and Yang, Y. (2010), "I warn you because I like you: Voice behavior, employee identifications, and transformational leadership", *Leadership Quarterly*, Vol. 21 No. 1, pp. 189-202.

Loi, R., Ao, O. K. and Xu, A. J. (2014), "Perceived organizational support and coworker support as antecedents of foreign workers' voice and psychological stress", *International Journal of Hospitality Management*, Vol. 36 No. 1, pp. 23-30.

McAllister, D. J., Kamdar, D., Morrison, E. W. and Turban, D. B. (2007), "Disentangling role perceptions: How perceived role breadth, discretion, instrumentality, and efficacy relate to helping and taking charge", *Journal of Applied Psychology*, Vol. 92 No. 5, 1200-1211.

Messersmith, J. G., Patel, P. C., Lepak, D. P. and Gould-Williams, J. S. (2011), "Unlocking the black box: Exploring the link between high-performance work

systems and performance”, *Journal of Applied Psychology*, Vol. 96 No. 6, pp. 1105-1118.

Milliken, F. J., Morrison, E. W. and Hewlin, P. F. (2003), “An exploratory study of employee silence: Issues that employees don’t communicate upward and why”, *Journal of Management Studies*, Vol. 40 No. 6, pp. 1453-1476.

Morrison, E. W. (2011), “Employee voice behavior: Integration and directions for future research”, *Academy of Management Annals*, Vol. 5 No. 1, pp. 373-412.

Morrison, E. W. (2014), “Employee voice and silence”, *Annual Review of Organizational Psychology and Organizational Behavior*, Vol. 1 No. 1, pp. 173-197.

Morrison, E. W. and Milliken, F. J. (2000), “Organizational silence: A barrier to change and development in a pluralistic world”, *Academy of Management Review*, Vol. 25 No. 4, pp. 706-725.

Morrison, E. W., Wheeler-Smith, S. L. and Kamdar, D. (2011), “Speaking up in groups: A cross-level study of group voice climate and voice”, *Journal of Applied Psychology*, Vol. 96 No. 1, pp. 183-191.

Mostafa, A. M. S. (2016), “High-performance HR practices, work stress and quit intentions in the public health sector: Does person-organization fit matter?”, *Public Management Review*, Vol. 18 No. 8, pp. 1218-1237.

Mostafa, A. M. S. (2017), “High-performance HR practices, positive affect and employee outcomes”, *Journal of Managerial Psychology*, Vol. 32 No. 2, pp. 163-176.

Mostafa, A. M. S. and Gould-Williams, J. S. (2014), “Testing the mediation effect of person-organization fit on the relationship between high performance HR practices and employee outcomes in the Egyptian public sector”, *International Journal of Human Resource Management*, Vol. 25 No. 2, pp. 276-292.

Ng, T. W. H. and Feldman, D. C. (2012), “Employee voice behavior: A meta-analytic

test of the conservation of resources framework”, *Journal of Organizational Behavior*, Vol. 33 No. 2, pp. 216-234.

Nishii, L. and Wright, P. M. (2008), Variability within organizations: Implications for strategic human resources management. In D. B. Smith (Ed.), *The people make the place: Dynamic linkages between individuals and organizations* (pp.225-248). Mahwah, NJ: Lawrence Erlbaum.

Parker, L. E. (1993), “When to fix it and when to leave: Relationships among perceived control, self-efficacy, dissent, and exit”, *Journal of Applied Psychology*, Vol. 78 No. 6, pp. 949-959.

Piening, E. P., Baluch, A. M. and Salge, T. O. (2013), “The relationship between employees’ perceptions of human resource systems and organizational performance: Examining mediating mechanisms and temporal dynamics”, *Journal of Applied Psychology*, Vol. 98 No. 6, pp. 926-947.

Preacher, K. J. and Selig, J. P. (2012), “Advantages of Monte Carlo confidence intervals for indirect effects”, *Communication Methods and Measures*, Vol. 6 No. 2, pp. 77-98.

Purcell, J. and Hutchinson, S. (2007), “Front-line managers as agents in the HRM-performance causal chain: Theory, analysis and evidence”, *Human Resource Management Journal*, Vol. 17 No. 1, pp. 3–20.

Qi, Y. and Ming-Xia, L. (2014), “Ethical leadership, organizational identification and employee voice: Examining moderated mediation process in the Chinese insurance industry”, *Asia Pacific Business Review*, Vol. 20 No. 2, pp. 231-248.

Qin, X., DiRenzo, M. S., Xu, M. and Duan, Y. (2014), “When do emotionally exhausted employees speak up? Exploring the potential curvilinear relationship between emotional exhaustion and voice”, *Journal of Organizational Behavior*, Vol.

35 No. 7, pp. 1018-1041.

Rhoades, L. and Eisenberger, R. (2002), "Perceived organizational support: A review of the literature", *Journal of Applied Psychology*, Vol. 87 No. 4, pp. 698-714.

Rosen, C. C., Ferris, D. L., Brown, D. J., Chen, Y. and Yan, M. (2014), "Perceptions of organizational politics: A need satisfaction Paradigm", *Organization Science*, Vol. 25 No. 4, pp. 1026–1055.

Rousseau, D. M. and Wade-Benzoni, K. A. (1994), "Linking strategy and human resource practices: How employee and customer contracts are created", *Human Resource Management*, Vol. 33 No. 3, pp. 463-489.

Ryan, R. M. and Deci, E. L. (2000) "Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being", *American Psychologist*, Vol. 55 No. 1, pp. 68–78.

Salancik, G. R. and Pfeffer, J. (1978), "A social information processing approach to job attitudes and task design", *Administrative Science Quarterly*, Vol. 23 No. 2, pp. 224–253.

Shanock, L. R. and Eisenberger, R. (2006), "When supervisors feel supported: Relationships with subordinates' perceived supervisor support, perceived organizational support, and performance", *Journal of Applied Psychology*, Vol. 91 No. 3, pp. 689-695.

Sikora, D. M., Ferris, G. R. and Van Iddekinge, C. H. (2015), "Line manager implementation perceptions as a mediator of relations between high-performance work practices and employee outcomes", *Journal of Applied Psychology*, Vol. 100 No. 6, pp. 1908-1918.

Sun, L. Y., Aryee, S. and Law, K. S. (2007), "High-performance human resource practices, citizenship behavior, and organizational performance: A relational

perspective”, *Academy of Management Journal*, Vol. 50 No. 3, pp. 558-577.

Takeuchi, R., Lepak, D. P., Wang, H. and Takeuchi, K. (2007), “An empirical examination of the mechanisms mediating between high-performance work systems and the performance of Japanese organizations”, *Journal of Applied Psychology*, Vol. 92 No. 4, pp. 1069-1083.

Tangirala, S. and Ramanujam, R. (2008), “Exploring nonlinearity in employee voice: The effects of personal control and organizational identification”, *Academy of Management Journal*, Vol. 51 No. 6, pp. 1189-1203.

Tangirala, S., Kamdar, D., Venkataramani, V. and Parke, M. R. (2013), “Doing right versus getting ahead: The effects of duty and achievement orientations on employees’ voice”, *Journal of Applied Psychology*, Vol. 98 No. 6, pp. 1040-1050.

Tucker, S., Chmiel, N., Turner, N., Hershcovis, M. S. and Stride, C. B. (2008), “Perceived organizational support for safety and employee safety voice: The mediating role of coworker support for safety”, *Journal of Occupational Health Psychology*, Vol. 13 No. 4, pp. 319-330.

Uen, J. F., Chien, M. S. and Yen, Y. F. (2009), “The mediating effects of psychological contracts on the relationship between human resource systems and role behaviors: A multilevel analysis”, *Journal of Business and Psychology*, Vol. 24 No. 2, pp. 215-223.

Van den Broeck, A., Ferris, D. L., Chang, C. H. and Rosen, C. C. (2016), “A review of self-determination theory’s basic psychological needs at work”, *Journal of Management*, Vol. 42 No. 5, pp. 1195-1229.

Van Dyne, L. and LePine, J. A. (1998), “Helping and voice extra-role behaviors: Evidence of construct and predictive validity”, *Academy of Management Journal*, Vol. 41 No. 1, pp. 108-119.

Walumbwa, F. O. and Schaubroeck, J. (2009), “Leader personality traits and employee

voice behavior: Mediating roles of ethical leadership and work group psychological safety”, *Journal of Applied Psychology*, Vol. 94 No. 5, pp. 1275-1286.

Wayne, S. J., Shore, L. M., Bommer, W. H. and Tetrick, L. E. (2002), “The role of fair treatment and rewards in perceptions of organizational support and leader-member exchange”, *Journal of Applied Psychology*, Vol. 87 No. 3, 590-598.

Wei, L. Q. and Lau, C. M. (2010), “High performance work systems and performance: The role of adaptive capability”, *Human Relations*, Vol. 63 No. 10, pp. 1487-1511.

Wei, X., Zhang, Z. X. and Chen, X. P. (2015), “I will speak up if my voice is socially desirable: A moderated mediating process of promotive versus prohibitive voice”, *Journal of Applied Psychology*, Vol. 100 No. 5, pp. 1641-1652.

Whitener, E. M. (2001), “Do “high commitment” human resource practices affect employee commitment? A cross-level analysis using hierarchical linear modeling”, *Journal of Management*, Vol. 27 No. 5, pp. 515-535.

Xiao, Z. and Björkman, I. (2006), “High commitment work systems in Chinese organizations: A preliminary measure”, *Management and Organization Review*, Vol. 2 No. 3, pp. 403-422.

Xiao, Z. and Tsui, A. S. (2007), “When brokers may not work: The cultural contingency of social capital in Chinese high-tech firms”, *Administrative Science Quarterly*, Vol. 52 No. 1, pp. 1-31.

TABLE 1
Comparison of Measurement Models

Model	χ^2	df	$\Delta\chi^2(\Delta df)$	RMSEA	TLI	CFI	IFI
Five-factor model	784.18	395		0.058	0.93	0.94	0.94
Four-factor model ^a	1273.14	399	488.96*** (4)	0.087	0.85	0.86	0.86
Four-factor model ^b	1014.89	399	230.71*** (4)	0.073	0.89	0.90	0.90
Three-factor model	2133.97	402	1349.79*** (7)	0.122	0.70	0.72	0.73
One-factor model	3193.88	405	2409.70*** (10)	0.154	0.52	0.56	0.56

Note. *** $p < 0.001$.

RMSEA = root mean square error of approximation. TLI =Tucker-Lewis index. CFI=comparative fit index. IFI= incremental fit index.

Five-factor model: employee experienced HCWS, psychological safety, perceived organizational support, voice efficacy, and voice.

Four-factor model ^a: voice efficacy and voice were combined into one factor.

Four-factor model ^b: perceived organizational support and psychological safety were combined into one factor.

Three-factor model: employee experienced HCWS and voice behavior were combined into one factor; voice efficacy and psychological safety were combined into one factor.

One-factor model: all five factors were combined into one factor.

TABLE 2
Means, Standard Deviations, and Inter-Correlations Among Study Variables

Variables	<i>M</i>	<i>SD</i>	1	2	3	4	5
Level 1							
1. Gender ^a	0.56	0.50	—				
2. Age	28.09	7.12	0.01	—			
3. Education level ^b	2.67	0.68	-0.01	0.20**	—		
4. Tenure	5.64	5.79	-0.13*	0.31***	0.12*	—	
5. Employee experienced HCWS	3.86	0.76	0.02	0.04	-0.09	-0.06	(0.90)
6. Perceived organizational support	3.71	0.99	-0.04	-0.01	-0.07	-0.02	0.64***
7. Voice efficacy	3.76	0.93	-0.06	0.03	-0.04	-0.01	0.60***
8. Psychological safety	3.86	0.87	-0.06	0.15*	-0.01	0.02	0.54***
9. Voice	5.24	1.35	-0.06	0.01	-0.21***	-0.07	0.33***
Level 2							
1. Department size	20.59	28.56	—				
2. HCWS utilization	3.82	0.98	0.02	(0.92)			

Note. *N*=290 at Level 1, *N*=58 at Level 2. ^a Dummy coded: 0 = male, 1 = female.

^b Dummy coded: 1 = junior high school and below, 2 = senior high school, 3 = college or undergraduate, 4 = postgraduate and over.

Coefficient alphas are given in parentheses on the diagonal.

* $p < 0.05$. ** $p < 0.01$. *** $p < 0.001$.

TABLE 3
Results of HLM Analyses

Outcome variables	Employee-HCWS	Psychological safety		POS		
Predicting variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Level 1						
Intercept	3.85*** (0.05)	3.83*** (0.06)	3.81*** (0.06)	3.70*** (0.06)	3.71*** (0.06)	3.77*** (0.06)
Gender	0.05* (0.06)	-0.05 (0.07)	-0.06 (0.06)	-0.01 (0.09)	-0.02 (0.08)	-0.10 (0.09)
Age	0.008 (0.008)	0.016** (0.005)	0.013* (0.005)	0.001 (0.009)	-0.007 (0.006)	-0.0004 (0.006)
Educational level	0.05 (0.06)	0.17 (0.11)	0.14 (0.10)	0.15 (0.08)	0.13 (0.08)	0.14 (0.08)
Tenure	-0.008 (0.009)	0.003 (0.006)	0.005 (0.007)	0.003 (0.009)	0.006 (0.006)	-0.002 (0.006)
Organization 1	0.33 (0.24)	-0.08 (0.22)	-0.18 (0.25)	0.07 (0.30)	-0.35 (0.26)	0.16 (0.26)
Organization 2	-0.40* (0.20)	-0.42 (0.35)	-0.13 (0.39)	-0.002 (0.33)	-0.09 (0.30)	-0.60** (0.30)
Organization 3	-0.74** (0.22)	-0.97*** (0.25)	-0.70* (0.32)	-0.97** (0.30)	-0.93*** (0.23)	-1.17*** (0.23)
Organization 4	-0.47 (0.26)	-0.71** (0.23)	-0.75* (0.31)	-0.53 (0.30)	-0.79*** (0.18)	-0.42 (0.26)
Organization 5	0.03 (0.18)	-0.31 (0.21)	-0.26 (0.28)	-0.04 (0.25)	-0.29 (0.18)	-0.30 (0.18)
Organization 6	-0.91*** (0.23)	-1.39*** (0.26)	-1.12** (0.32)	-1.54*** (0.37)	-1.56*** (0.28)	-1.16*** (0.28)
Organization 7	-0.54* (0.25)	-0.69** (0.24)	-0.49 (0.30)	-0.47 (0.38)	-0.37 (0.25)	-0.92*** (0.25)
Organization 8	-0.17 (0.25)	-0.58 (0.31)	-0.69 (0.35)	-0.47 (0.32)	-1.07*** (0.24)	-0.27 (0.24)
Organization 9	-0.81** (0.24)	-0.98*** (0.21)	-0.80** (0.29)	-1.09*** (0.24)	-0.92*** (0.16)	-1.24*** (0.16)
Organization 10	-0.85*** (0.17)	-1.28*** (0.21)	-0.98** (0.30)	-1.10*** (0.29)	-1.18*** (0.23)	-0.66** (0.23)
Employee-HCWS ^a			0.29*** (0.08)		0.52*** (0.10)	
POS ^a						
Voice efficacy						
Psychological safety						
Level 2						
Department size	0.0033* (0.0013)	0.002* (0.001)	0.002 (0.002)	0.001 (0.002)	-0.002 (0.002)	0.003 (0.002)
HCWS utilization	0.25*** (0.06)	0.29*** (0.08)	0.20** (0.07)	0.29** (0.09)	0.19* (0.07)	0.26*** (0.07)
R^{2b}	0.34	0.35	0.44	0.25	0.41	0.25

Note. $N=290$ at Level 1, $N=58$ at Level 2. Unstandardized coefficients were presented and the corresponding standard errors were reported in the parentheses.

^a Employee-HCWS refers to “Employee experienced HCWS,” POS refers to “Perceived organizational support.”

^b R^2 is based on the proportional reduction of levels 1 and 2 error variance resulting from predictors.

* $p < 0.05$. ** $p < 0.01$. *** $p < 0.001$.

FIGURE 1
Theoretical Model

